EXAM-STYLE CLASS TEST

MARKS	DURATION	QUESTIONS
31	50 minutes	3

Name: _____ Class: _____

Date: _____

MARK ____ / 31

INSTRUCTIONS AND INFORMATION

1. Answer **ALL** the questions in this question paper.
2. Answer QUESTION 1 by **circling** the letter (A–D) in the answer grid at the end of that section.
3. Show **ALL** calculations clearly.
4. Show all units where applicable.
5. Number the answers correctly according to the numbering system used in this question paper.
6. A non-programmable calculator may be used, unless stated otherwise.
7. Write neatly and legibly.

QUESTION 1 [10 MARKS]

Four options are given as possible answers to the following questions. Choose the correct answer and circle the letter (A–D) in the grid at the end of this section. If you want to change your choice, put a cross through the wrong letter and circle your new choice.

1.1 Two shapes that have the same shape AND the same size are ... (1)

A) congruent **B)** equal in area only
C) symmetrical **D)** similar

1.2 Two shapes that have the same shape but DIFFERENT sizes are ... (1)

A) equal **B)** similar
C) identical **D)** congruent

1.3 In similar triangles, the corresponding ANGLES are ... (1)

A) equal **B)** doubled
C) in the same ratio as the sides **D)** halved

1.4 $\triangle ABC \,|||\, \triangle DEF$ with AB = 6 cm and DE = 3 cm. The scale factor from $\triangle DEF$ to $\triangle ABC$ is ... (1)

A) 18 **B)** 2
C) 3 **D)** 0,5

1.5 For those triangles, if EF = 5 cm then BC is ... (1)

A) 15 cm **B)** 2,5 cm
C) 10 cm **D)** 5 cm

1.6 If the scale factor of an enlargement is 3, the AREA is multiplied by ... (1)

A) 27 **B)** 6
C) 9 **D)** 3

1.7 Triangle ABC is reflected in a line to give triangle A′B′C′. The two triangles are ... (1)

A) similar but not congruent
B) neither similar nor congruent
C) congruent only if ABC is isosceles
D) congruent

1.8 △ABC ≡ △PQR. The side equal to AC is ... (1)

A) PR
B) AB
C) QR
D) PQ

1.9 A photograph 6 cm by 4 cm is enlarged so that the longer side becomes 15 cm. The shorter side becomes ... (1)

A) 12 cm
B) 10 cm
C) 9 cm
D) 13 cm

1.10 Which one of the following is ALWAYS true? (1)

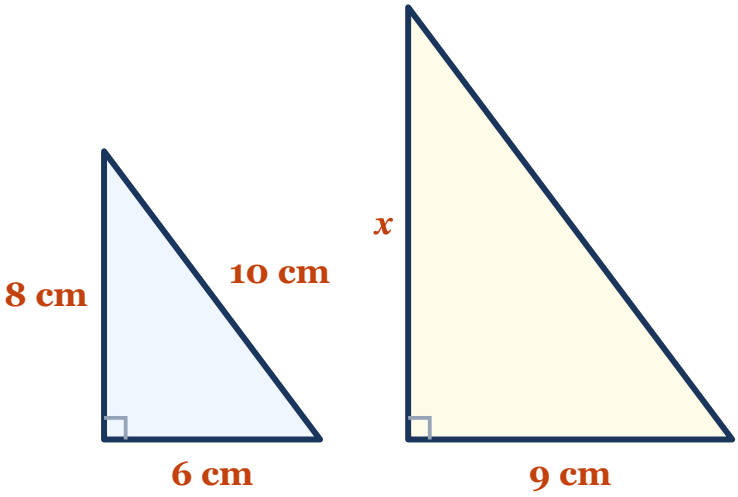
A) all triangles are similar
B) similar shapes are congruent
C) all rectangles are similar
D) congruent shapes are similar

ANSWER GRID — CIRCLE YOUR ANSWERS FOR QUESTION 1

1.1	A	B	C	D
1.2	A	B	C	D
1.3	A	B	C	D
1.4	A	B	C	D
1.5	A	B	C	D
1.6	A	B	C	D
1.7	A	B	C	D
1.8	A	B	C	D
1.9	A	B	C	D
1.10	A	B	C	D

QUESTION 2 **[14 MARKS]**

The two right-angled triangles below are similar. *The diagrams are not drawn to scale.*



2.1 Calculate the scale factor from the smaller triangle to the larger one. **(3)**

2.2 Hence calculate the length of x. **(3)**

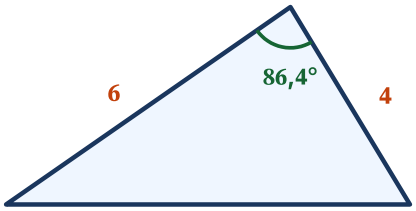
2.3 Calculate the perimeter of EACH triangle, and show that the perimeters are in the same ratio as the sides. **(4)**

2.4 Calculate the area of each triangle and explain why the areas are NOT in the ratio $1{,}5 : 1$. **(4)**

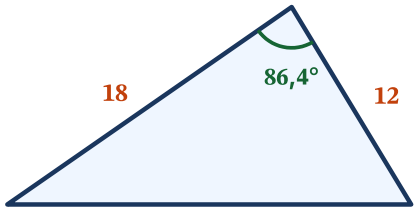
STATEMENT	REASON

QUESTION 3 [7 MARKS]

Answer the following.



△ABC



△PQR

3.1 Explain the difference between CONGRUENT and SIMILAR shapes. **(3)**

STATEMENT	REASON

3.2 △ABC has sides 4 cm, 6 cm and 7 cm. △PQR has sides 12 cm, 18 cm and 21 cm. Show that the triangles are similar, and write down the scale factor. **(4)**

STATEMENT	REASON

TOTAL: 31 marks

This question paper consists of 3 questions.

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